

## ABSTRACT OF THE DISCLOSURE

An integrated gas turbine compressor and rotary fuel injector is provided which includes a rotary cup combustor having an atomizing element for dispersal and distribution of fuel throughout the combustor. The combustor is positioned in close proximity to the compressor impeller of a gas turbine engine having a centrifugal compressor. The rear face of the impeller, or the rear face of an attachment to the impeller, is contoured to receive the fuel supply. The contour terminates at a lip disposed at a larger radius from the centerline shaft than conventional shaft-mounted slingers. The larger radius of fuel release provides better fuel atomization due to larger rim speeds, thereby improving combustor performance.

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